DOCUMENT RESUME

ED 301 214 IR 052 559

AUTHOR Abrera, Josefa B.
TITLE Doctoral Programs, Theses, and Graduates in Library and Information Science in the United States: An Analysis of the Published Literature, 1960-1980. Occasional Papers Number 183.
INSTITUTION Illinois Univ., Urbana. Graduate School of Library and Information Science.
PUB DATE Sep 88
NOTE 49p.
AVAILABLE FROM Occasional Papers, Graduate School of Library and Information Science, Publications Office, University of Illinois at Urbana-Champaign, 249 Armory Building, 505 E. Armory Street, Champaign, IL 61820 ($5.00).
PUB TYPE Information Analyses (070)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Content Analysis; *Doctoral Dissertations; *Doctoral Programs; *Graduates; Graduate Surveys; Higher Education; *Information Science; *Library Research; Library Schools; *Library Science; Longitudinal Studies; Program Descriptions

ABSTRACT

This study analyzes and synthesizes the published information on doctoral programs, dissertations, and graduate students in library and information science in the United States from 1960 to 1980, and identifies those aspects that have been reported in the literature since the publication of the last such study in 1959. Data were gathered by manual searches of library-oriented indexes and a computerized search of ERIC using the PROBE retrieval program. The published literature for the target dates included 61 items, of which 20 focused primarily on doctoral programs, 21 on doctoral dissertations, and only one on doctoral graduates; seven reported on both doctoral programs and dissertations, three on doctoral programs and graduates, and one on doctoral dissertations and graduates; and seven examined all three areas. Publications on doctoral programs are analyzed in terms of admissions, courses, competencies, degrees, examinations, committees, faculty, recruitment, objectives, history, ranking, contribution to the profession, and issues and problems. Analyses of doctoral theses focus on statistical data, subject/topic, methodology, length of time to complete, published format, citation patterns, value/importance, shortcomings, and bibliographies/lists. Data on doctoral graduates are discussed in terms of socioeconomic factors, educational background, position held, prior professional experience, salaries, professional membership, and publications. Appendixes include a table of categories of doctoral programs, theses and graduates and a list of bibliographies of library/information science dissertations. (77 references) (EW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED3012214

University of Illinois
Graduate School of Library and Information Science

OCCASIONAL PAPERS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ISSN 0276 1769

Number 183
September 1988

Doctoral Programs, Theses, and Graduates in Library and Information Science in the United States: An Analysis of the Published Literature, 1960-1980

by

Josefa B. Abrera

IR052559

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

H. Wagner

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Doctoral Programs, Theses, and Graduates in Library and Information Science in the United States: An Analysis of the Published Literature, 1960-1980

by

Josefa B. Abrera

© 1988 The Board of Trustees of The University of Illinois

OCCASIONAL PAPERS deal with any aspect of librarianship and consist of papers which are too long or too detailed for publication in a library periodical or which are of specialized or temporary interest. Manuscripts for inclusion in this series are invited and should be sent to: OCCASIONAL PAPERS, Graduate School of Library and Information Science, Publications Office, University of Illinois at Urbana-Champaign, 249 Armory Building, 505 E. Armory Street, Champaign, Illinois 61820.

Papers in this series are issued irregularly, and no more often than monthly. Subscriptions for 1988 may be established for $13.00 per year. At least four papers will be issued annually, beginning with number 183 for 1988. Individual copies of current or back numbers may be ordered each for $5.00 plus $2 for the first copy and .50 per additional copy for postage and handling. *All orders must be accompanied by payment.* Send orders to: OCCASIONAL PAPERS, Graduate School of Library and Information Science, Publications Office, University of Illinois at Urbana-Champaign, 249 Armory Building, 505 E. Armory Street, Champaign, Illinois 61820. Make checks payable to University of Illinois.

Donald W. Krummel, Editor
James S. Dowling, Managing Editor

PUBLICATIONS COMMITTEE

Leigh Estabrook F. Wilfrid Lancaster

Contents

Introduction 3
Methodology 4
The Nature of the Literature 5
Doctoral Programs 6
History and Objectives 6
Ratings and Rankings of Doctoral Programs 7
Admissions 7
Courses 10
Degrees 11
Length of Time to Complete Degree and Attrition Rate 13
Competencies 14
Examinations 16
Dissertation Committee 16
Faculty 17
Recruitment 17
Importance and Contribution to the Profession 18
Issues and Problems 20
Doctoral Theses 22
Doctoral Graduates 29
Socioeconomic Factors 29
Educational Background 31
Position Held and Salaries 31
Research and Publication 33
Postscript 35
Conclusion 35
Appendix A 38
Appendix B 39
Appendix C 40
Appendix D 42
References 43
Additional References 45
Vita 46

INTRODUCTION

Shera (1973), in describing the aims and content of graduate library education, pointed out that the Danton study

> although its statistics are now seriously out-of-date, still stands as something of a landmark for its analysis of the programs, subjects of dissertations, qualifications of faculty and students, factors which were preventing the schools from attaining fully their objectives, and the contribution the doctorate has made to the profession. There exists a real need to bring his careful investigation up-to-date, a need that is not met by Davis' tabulation (1968) of master's and doctoral theses from 1950 to 1967, or Walker's (1963) analysis of thesis content for the years 1949-58. (p. 20)

The Danton study (1959) was published 31 years after the first doctoral program was organized. It was one of the first quantitative studies on the subject. The study dealt with the following topics: (1) quantitative and qualitative analysis of dissertations (1930-1959); (2) objectives of doctoral programs; (3) major fields of study for the doctorate; (4) factors preventing schools from attaining their objectives; (5) withdrawal rate and time factor; (6) positions held by those who received the doctorate; and (7) contribution of the doctoral study to the profession. The purpose of the Danton study was to examine and review the status of doctoral programs offered in six library schools (Chicago, Illinois, Michigan, Columbia, California [Berkeley], and Case Western Reserve), their objectives, and their accomplishments.

Since the Danton study, 16 doctoral programs have been established. This meant that in the span of 17 years (1960-1977), doctoral programs have more than doubled in number when compared to the previous 30 years (1928-1959) where only six doctoral programs were in existence. It must be stressed that the rapid expansion of doctoral programs in library and information science in the United States for the most part was a result of the Higher Education Act of 1965 (Title II-B) which was a response to the need to strengthen and revitalize library education. It could be argued that the 1965 HEA Act program had contributed to the rapid growth of library schools offering doctoral programs as well as the number of degrees awarded. Concomitantly, the period from 1960 to 1980 saw a marked increase in the number of publications on doctoral programs, dissertations, and graduates. It could be hypothesized that the literature published from 1960 to 1980, taken together, has included most, if not all, of the variables reported in the Danton study; conversely the literature from 1960 to 1980 has included variables that were not covered in the Danton study.

The purpose of this study is to analyze and synthesize the published information on doctoral programs, dissertations, and graduates in the

United States from 1960 to 1980 and to identify what aspects of doctoral programs, dissertations, and graduates have been examined and reported in the literature since the publication of the Danton study in 1959.

METHODOLOGY

To gather data for the study, manual searches were made through *Library Literature, Doctoral Dissertations in Library Science* (1930-75); *Library Science: A Dissertation Bibliography* (1980); *Library Science Dissertations* (1925-72); and *Advances in Librarianship* (volumes 1-9, 1970-79). In addition to the manual searches, a **PROBE** computer search was utilized. (A **PROBE** search is a computer retrieval program developed at Indiana University to search the **ERICTAPE** of **RIE** and **IJE**.) More than 100 articles, reports, books, and dissertations were generated out of the searches. These appeared in journal articles, parts of books and dissertations, and monographs.

In order to achieve a systematic analysis of the textual documentation, the strategy employed in content analysis was utilized. A prerequisite in content analysis is the construction of a list of categories that will ensure consistency in coding the characteristics of the documents examined.

A method was devised to compile a list of words that will account for all possible deviations in the meaning of words used to characterize the published literature. The strategy used in developing the lists of categories is empirical and inductive. To obtain the list of possible categories, words, phrases, and idioms were extracted as they appeared in the text and which were relevant to the topic investigated. The list of categories evolved as a collection of words derived primarily from the textual documents. A number of external sources were consulted to validate the terms—i.e., LCSH, ERIC Thesaurus, and Library Literature.

This process entailed examining the language characteristics of 61 documents and using these to generate a list of terms. The meaning of each term was determined on the basis of the usage exhibited from the actual documents. The list consists of coded concepts that together represent the words, phrases, and idioms used in textual documentation. The list of categories functions to identify variant terms when they occur in the text and allows the coder to identify the cluster of words pertinent to each category. For example, the concept "admission requirements" may well be expressed in ways other than the simple term "admissions." Different authors will refer to this concept in a variety of referents. Thus the list

serves as a mapping device where a number of words occurring within the text are reduced to a few basic terms.

After the construction of the list of categories, the next step was to analyze each document on a sentence-by-sentence basis to determine whether or not a characteristic appeared in a document. If so, then the appropriate code was assigned to the sentence. The language used in the documents examined can be described as denotative, hence it was a fairly simple task to assign codes to each sentence. It should be emphasized that this study was undertaken solely to describe the characteristics of the content of textual documentation and is not involved in the analysis of the number of occurrences of a term or characteristic.

THE NATURE OF THE LITERATURE

The published literature from 1960 to 1980 included 61 items. These may be classified as either quantitative or nonquantitative studies (a study was considered quantitative when statistical techniques were applied to obtain data). Of the 61 items, 14 (23%) were categorized as quantitative and 47 (77%) as nonquantitative. Two types of studies predominated in the quantitative group: (1) analysis of doctoral dissertations; and (2) analysis of the doctoral graduates. Three methods predominated in collecting data: (1) survey research; (2) citation analysis; and (3) analysis of lists of dissertations. Survey research includes both the use of questionnaires and interviews. The list of dissertations were a primary source for developing a profile of library science dissertations. It should be noted that the lists were used more in determining the number of doctoral graduates than in studying dissertations per se.

In the nonquantitative category, the topics reported were (1) description of doctoral programs of individual library schools, (2) observations of or position papers on issues related to doctoral programs, (3) differences between the Ph.D. degree and advanced certification, and (4) lists of dissertations in library and information science.

Of the 61 publications, 20 (33%) focused primarily on doctoral programs, 21 (34%) on doctoral dissertations, and only one (2%) on doctoral graduates. However, there were seven (11%) items that reported on both doctoral programs and dissertations, three (5%) on doctoral programs and graduates, and one (2%) on doctoral dissertations and graduates. Seven publications (11%) examined all three—i.e., doctoral programs, dissertations, and graduates. Appendix A lists the various aspects examined and discussed in the published literature covering the period from 1960 to 1980.

DOCTORAL PROGRAMS

Of the 61 publications under review, 37 (61%) were on doctoral programs. The topic most frequently examined was "types of degrees" (12 items). This was followed closely by those dealing with the "MLS degree," "professional experience," "foreign language requirements," and "faculty" (each topic featured in 11 publications). The two topics least discussed were "length of time to complete the courses" and "rating and ranking of programs." Of the 37 publications on doctoral programs, 27 (73%) included less than seven topics, and 10 (27%) included seven or more topics. Two topics—foreign language requirements and history of doctoral programs—each had a full article.

History and Objectives

For a historical perspective of the development and growth of doctoral programs, five publications (Bramley 1975, pp. 50-68; Carroll 1970, pp. 183-223; Churchwell 1975, pp. 93-102; Osborn 1967, pp. 158-63; Shera 1972, pp. 398-421) are good sources. All five touched upon the University of Chicago Graduate Library School's influence on subsequent programs and the role Chicago played in the systematic development of a body of knowledge in librarianship through research and scholarship. If one is interested in Wilson's role in formalizing the program at Chicago, one must refer to Shera's article. It is quite evident that the development and growth of doctoral programs have been a slow, painful process, and there was considerable criticism among librarians as to the advisability and propriety of the Ph.D. degree in librarianship. Shera (1972) wrote that criticism within the profession was even more devastating than the criticism from outside (p. 399).

Although the literature discussed the philosophical basis and objectives of doctoral programs in library and information science quite differently, nothing in it was significantly different in substance from the summary given in the Danton study. Altogether there was general agreement that doctoral study should have the primary aim of preparing students to assume roles of scholarship and to recognize intellectual discipline and scientific research as necessary ingredients in the development of a body of knowledge. Harlow (1968) emphasized that the "degree is evidence the holder has the same kind of stamina as other academic people and a similar background in research techniques" (p. 485). Wasserman (1968) warned that "its benefit to librarianship will be ill-served by shifting its emphasis [from a research degree] to accommodate those who seek such study in order subsequently to pursue careers in administration" (p. 13).

Ratings and Rankings of Doctoral Programs

Only Carpenter and Carpenter's (1970) study rated and ranked doctoral programs in library and information science (pp. 37-41). The authors compared their findings with those of the Cartter (1966) study to determine to some extent the influence of a school's reputation in other fields on its library school. One factor measured by the study was the effect of institutional loyalty on ranking. Marguilies and Blau's (1973) pecking order of the elite of American professional schools did not show any significant change in the ranking of the five best schools in library science—i.e., Chicago, Columbia, Illinois, California (Berkeley), and Michigan.

Although the White (1981) study was not included in this analysis of the literature on doctoral programs, the author feels that a brief comparison of Carpenter and Carpenter's and White's findings are in order. The database and methodology used were entirely different; nevertheless, the resulting rankings did not show any great changes in the general pattern in terms of ranking considering the fact that the White survey was taken 11 years later. Carpenter and Carpenter's prediction that a number of doctoral programs may improve or decline over the years was confirmed in the White study.

Admissions

Admissions criteria discussed in the literature were age, grade point average (GPA), Graduate Record Examination (GRE), completion of the first professional degree (M.L.S.), and experience beyond the first professional degree. The last two criteria were at least in nine publications (24%), GPA and GRE in five publications (14%), and age in three publications (8%).

Of interest is the variety of phrases used to characterize the GPA such as "high grade-point average," "outstanding performance in academic studies," "a GPA of B," and "a grade-point average of at least four (on a five-point scale)." GPA and GRE requirements vary from school to school. One article surveyed the GRE requirements of schools while another surveyed the opinions of doctoral graduates regarding the GRE admissions requirement. Most schools required the GRE with one administering its own aptitude test. Slavens's (1969) opinion survey reported that 73% favored the GRE requirement for admission (p. 526). It also noted that library administrators were willing to admit students with a lower GPA than library educators. The argument frequently made was that a GPA was not considered a reliable and valid predictor of future academic performance of the applicant.

The literature indicated that either a master's degree from an accredited library school or a master's degree in another field could fulfill one of the

admissions requirements, though the M.L.S. degree is the more generally accepted criterion. On the extreme end, one university proposed that an applicant be admitted to the doctoral program directly from the bachelor's program; in another institution, both the M.L.S. and a second master's degree from a subject field were required for admission.

Slavens's (1969) opinion survey of doctoral graduates on requirements for the Ph.D. degree in library science reported that on minimal degree requirements, 68% of the respondents indicated the master's degree from an accredited library school; however, many suggested that flexibility be exercised in each individual case. The extent to which library schools considered the importance of the M.L.S. as an admission requirement for the Ph.D. degree was summed up by Marco (1967) as:

> What kind of degree one already has is a factor of considerable importance, and it is a factor weighed quite differently in the various admission decisions. The normally expected credential is a master's from an accredited library school (or the equivalent of a master's at Chicago). Chicago would also take a person with a master's from an unaccredited library school assuming other results and qualities to be favorable; so would Rutgers, with likelihood of some extra master's course work necessary, and so would Illinois and Columbia. California, Michigan, and Western Reserve would say no to the unaccredited degree holder. On the other hand, the old fifth-year B.L.S. is still good, in the eyes of every school except perhaps Rutgers (which would probably require some additional recent study at the master's level). Michigan uniquely requires a subject field master's, in addition to a library science master's. (p. 7)

Held (1968) questioned the "appropriateness of the basic *professional* degree, the M.L.S., as preparation for the *research* doctorate, Ph.D." (p. 258).

There exists a variety of definitions for the term *professional experience.* Where some schools stated the exact number of years of experience required (ranging from one to three years), others simply indicated the requirements as "acceptable library experience" or "significant experience." There were schools which did not require professional experience at all. Almost all schools, however, agreed that professional experience should be experience beyond the first professional degree. The validity of "significant experience" replacing the first professional degree was debated in the literature. Two points of view emerged on the need for library experience before admission to the doctoral program—i.e., if the doctoral degree is a research degree, thus the need for practical experience is less apparent; on the other hand, there is an expressed feeling that without actual contact with library situations, one is not fully prepared to confront library problems in the advanced form they take in doctoral curricula and research. Marco (1967) questioned the validity of "their claim to expertness, and at their willingness to teach in library school what they have

never tried to do; operate a library. For the library science Ph.D. tends to become—as we shall see shortly—either a library school teacher or an academic library administrator; he is almost never a pure 'researcher' entirely removed from library practice" (p. 8). Goldhor (1968) argued for requiring library experience before admission to the Ph.D. program on the grounds that with "our Ph.D.'s going into headships and teaching positions, I am doubly glad for our requirement, because they will never again even be able to get that kind of work experience—and I think they should have it" (p. 270).

In a 1969 survey of opinions of ALA members holding Ph.D. degrees in library science who were polled on certain facets of the requirements for the degree, there was considerable difference of opinion. The survey reported that:

> Forty per cent thought that no experience should be required, while the balance would require at least one year. Some thought that the variety and the quality of the experience should be evaluated. Others believed that related experience, such as teaching in college, should be counted in lieu of library experience. (Slavens 1969, p. 527)

Since the survey was done in 1969, it would be interesting to poll graduates regarding requirements for admission—i.e., the M.L.S. and professional experience—to see whether they have changed their perspective on the issue.

Two studies have some bearing on the validity of professional experience as a requirement for admissions (Lane 1975, p. 196; White and Momenee 1978, p. 211). While Lane (1975) pointed out that there exists "an inverse relationship between professional experience prior to receiving the Ph.D. and subsequent productivity" (p. 196), White and Momenee (1978) reported that "both prior experience and prior research publication appear to bear no positive relation to postdoctoral research" (p. 211). Neither study attempted to distinguish between the kind and the quality of professional experience prior to the doctorate. Nevertheless, White and Momenee (1978) argued that:

> As a result insofar as it is considered desirable that library school faculty have operational experience in the areas in which they teach, it can be postulated that they must achieve it before they become doctoral candidates. If they enter faculty ranks upon receipt of their doctorates without prior operational or administrative experience, it does not appear from the survey that they will be likely to acquire it later. (p. 209)

Given the considerable differences of opinion regarding professional experience as an admission requirement, and in the absence of a definitive statement as to what is adequate or satisfactory professional experience, these studies raise the following questions: Should experience be defined

in terms of number of years? Should the institution consider where the experience was gained? Should the kind and quality of professional experience be considered? Should teaching experience (whether in a library school or in a nonlibrary field) be counted in lieu of operational or administrative experience? Finally, how do admission requirements in library schools compare with other professional schools? Noticeably absent in the literature on admission requirements is consideration given to the school's policy on interviewing an applicant prior to admission and the weight given to the applicant's statement of goals and objectives in seeking admission to the doctoral program.

Courses

The topics discussed were course content (i.e., mode of presentation), required courses, major and minor concentration, number of credits required and length of time to complete the course work. A majority of doctoral programs have flexible course requirements. The literature indicated that views differed as to the nature of the courses to be offered.

Shera, Shores, Wasserman, and Galvin were of the opinion that there should be some "theoretical base" courses and "tool" courses. Shera (1972, pp. 408-10) designed a matrix for courses; Shores (1972, p. 24) emphasized the need for "loftier dimensions" in curricular content; Wasserman (1968, pp. 13-14) enumerated a common core of courses that should be required; and Galvin (1973, p. 208) suggested a sequence of correlated coursework, seminars, and independent study. Slavens's opinion survey of doctoral graduates showed that "71% indicated that the courses taken in library school by Ph.D. students should cover the whole field of librarianship" (Slavens, p. 527). Hunt, Reed, and Woolls (1979) summarized the opinion of respondents as to the strengths and weaknesses of the curriculum content in three academic schools as follows:

> *Strengths:* Flexibility and diversity of the program; an excellent interdisciplinary approach; the research emphasis; well-balanced program with good subject content and interesting seminars.
> *Weaknesses:* Students not "ready" for research need more statistical knowledge, more research and writing for publication; re-invention of the wheel if prior study is covered again, still too many bibliographic and historical studies. (p. 245)

The above evaluation of the doctoral curriculum content reaffirmed the findings reported by Slavens (1969, pp. 531-32) ten years ago on the strengths and weaknesses of Ph.D. programs.

Several articles discussed the pros and cons of required courses. The number of credit hours to be required beyond the master's degree was

debated from diverse points of view. For example, Marco (1967, p. 8) reported that there were quite substantial differences in the minimum number of semester hours required beyond the master's degree—ranging from 30 to 78 hours in seven doctoral programs surveyed. Two schools required 30 credit hours, two would require 40 hours, and three other schools would require 36, 60, and 78 credit hours. On the other hand, Slavens polled Ph.D. degree holders on the amount of course work that should be required in a doctoral program. He found that: "Although 26 per cent thought that there should be no required minimum, most of the people who responded did not think this much flexibility was desirable. Sixty-two per cent thought that the course work should total at least twenty hours" (Slavens 1969, p. 527).

Shores's (1972) view on this issue was more straightforward and structured, stating that: "There should be no coyness about indicating a normal residence of two academic years beyond the master's and course credits (as long as credits persist as a measure of education) totaling 60 semester hours, more or less" (p. 24).

One of the topics discussed at length in the Danton study was on the major fields of study available in doctoral programs. Danton enumerated the kinds of specialization available in three schools. Five articles in the post-Danton era picked up on this aspect of doctoral programs. One article proposed a concentration in historical bibliography or booktrade research (Cazden 1967). Richmond outlined some of the opportunities in libraries for holders of the Ph.D. degree; a number of specialties in library and information science are emerging which have enough substance to support a Ph.D. program. She pointed out that: "Library science has progressed to the point where it can support specialists. Now it behooves the schools to produce them, and at the same time continue to turn out high-level administrative personnel. The same program is neither desirable nor necessary for both types" (Richmond 1970, p. 317).

Other articles explained the concept of specialization and number of hours required to complete the program. Three articles discussed briefly the aspect of a minor concentration. Myers (1980, 1977) prepared a list of specialization available in twenty-eight doctoral programs. The list includes programs that are found in accredited library schools as well as those that are interdisciplinary.

Degrees

The subsets for this category are: types of degree awarded, types of degree earned, the status of the degree, and the length of time to complete the

degree. For those who are simply interested in a listing of the types of degrees awarded by library schools in the United States and Canada, one of the best sources to consult is Myers's directory.

Three types of degree are awarded: (1) the Ph.D, (2) the D.L.S., and (3) the Doctor of Arts (this latter degree being an innovation in Simmons College). Several articles tried to clarify the "fuzzy distinctions" between the Ph.D. and the D.L.S. What is the most appropriate degree for the profession? Carpenter and Carpenter's (1970, pp. 33-34) survey revealed that 86% of the doctoral group chose the Ph.D. degree as the appropriate degree. This substantiated the study of Schlachter and Thomison reporting the Ph.D. to dominate the degrees earned by doctorates, followed by the Ed.D. and D.L.S. Schlachter and Thomison (1974) observed that, "the program of parallel educational paths to library employment, sound in principle, appears to break down in practice" (p. 107). Negative comments have been expressed, however, regarding the validity of two types of degrees in librarianship. Two related questions that have curricular implications are: (1) What does the Ph.D. in librarianship stand for? (2) What is the Ph.D. holder expected to know?

Five studies reported on the number of degree holders in library and information science in the United States. The average number per year varied depending on the period covered in the study and the overlap in the years covered. The average (ranging from 4.3 to 21.7) was calculated by dividing the number of graduates by the number of years covered in the study. Though it may seem odd that as the span of years increased the lower was the average per year; this was understandable because of the relatively low output in doctoral programs between 1926 and 1959. When doctoral programs increased in number in the 1960s, doctoral output accelerated. Three studies covered at least 40 years while the other two studies included 13 and 30 years respectively.

Degrees earned were also tabulated by granting institutions. Generally, the more recent the study, the more institutions were likely to be mentioned. The Danton study (1959), for example, included only five programs, while Carpenter and Carpenter's study (1970) included eight. A more sophisticated and complex correlation was attempted by Schlachter and Thomison. The authors cross-tabulated type of degree earned with other variables such as position held, sex, and dissertation-related job, and method of research used.

Carpenter and Carpenter's (1970) study pointed out, based on "both direct and indirect evidence," that the "present number of doctoral programs is

not adequate" (p. 35). (By 1950, 15 library schools were offering doctoral programs.) Their conclusion was that there are not enough Ph.D.s in library science to meet the demand and that, therefore, subject Ph.D.s will continue to be utilized. But the picture has changed radically since then. According to White and Momenee (1978):

> While the trend for library education posts has been toward the doctorate, the trend in administrative posts has been away from the doctorate and toward a demonstrated ability to manage. The most dramatic evidence for this comes in a study by Kaser, which reports that in 1960 90 percent of ARL (Association of Research Libraries) head librarians achieved doctorates. In 1976 this had dropped to 15 percent of ARL library administrators. (pp. 208-09)

The preceding observations seem to imply a fluctuating demand for the doctorate over the years. The cause for the drop in the number of ARL library administrators could perhaps be attributed to the attrition rate in doctoral candidates.

Length of Time to Complete Degree and Attrition Rate

Whereas the pre-Danton period reported a high attrition rate, the post-Danton period reported a relatively low rate. In the Danton (1959) study the ratio between total students and those awarded the degree varies from 8:1 to 12:1 (p. 442). The attrition rate in librarianship is not different from that of other disciplines. Of the post-Danton literature, only Schlachter and Thomison (1974, p. 100) touched on the subject of attrition and withdrawal rate from the doctoral program. Their data were based on 262 dissertations reported in the *Journal of Education for Librarianship* research record column.

The length of time to complete the degree was calculated by comparing the number of students who started working on their dissertations with those who actually received the degree. The Danton study identified two factors affecting the length of time to fulfill requirements: (1) lack of financial aid, and (2) lack of part-time employment.

The importance given to this topic in the study was not surprising because, during that period, there was a great concern for the lack of financial aid for doctoral students. The importance of this issue is diminished considerably in the post-1959 literature. The availability of the Higher Education Act II-B (HEA IIB) fellowships partly resolved the problem of financial aid in the 1960s. Carpenter and Carpenter (1970) concluded that "the inadequate number and the selective recruitment of doctorates suggest the need for greatly increased financial assistance for doctoral study, if only to reduce the importance of financial resources alone in attaining the

doctorate—a problem particularly acute for those from less well-to-do families" (p. 35). With federal subsidies drying up, it would seem likely that the 1980s will witness the resurgence of this issue.

Comparison of the Danton study with the Schlachter and Thomison study would not be entirely valid because of differences in the circumstances under which the studies were conducted. However, certain generalizations may be drawn from both studies. Increased financial aid, for instance, is one of the factors which may account for the declining attrition rate. The difference in quality between the doctoral programs before 1959 and those after the 1959 period is another. The enforcement of more rigorous standards resulted in the admission of students who were better prepared to weather the rigors of a doctoral program.

Competencies

Five articles described foreign language requirements. There was no widespread agreement among the schools except that foreign language competencies be in French, German, or Russian. It was recommended that foreign language requirements be liberalized in order to break down the monopoly of the French and German languages. One study tried to determine the purpose the foreign language requirement served in a doctoral program and whether the present language requirements fulfilled the aim. The conclusion was that "it is difficult to draw firm conclusions about the true need and usefulness of foreign language proficiency and research" (Walch 1970, p. 179). The literature on foreign language requirements predicted a trend toward reducing the requirements from two to one language with students opting to take statistics or computer courses in lieu of foreign languages.

Two topics relating to research competencies were discussed, namely: "tool courses" and "predoctoral research." A "tool course" should prepare the student to formulate a dissertation problem and provide opportunities to learn research techniques. The other topic—the postdoctoral research—is a story by itself. The Hunt, Reed, and Woolls (1979) opinion survey of graduates from three doctoral programs indicated that one of the most mentioned weaknesses of the program related to research was that: "Students not 'ready' for research need more statistical knowledge, more research and writing for publication" (p. 245). This deficiency should not come as a surprise because almost four decades ago Berelson (1949) categorically stated that:

> Most students come to scientific research in librarianship from an academic background which does not prepare them for this specialized activity....And

> advanced students simply cannot learn enough about research methods in the time available. It is ludicrous to think that the student can learn enough in one course, plus what he picked up on research methods in subject courses, to enable him to conduct a creditable research study; and yet we operate on that assumption. (p. 218)

Harlow (1968) had placed the crux of the matter on the faculty when he stated that "the main reason that research does not 'take,' that doctoral students do not become fascinated with research and develop into competent and productive research people, may be that they have not served under sufficiently capable, committed, and communicative faculty" (p. 485). Likewise an institution's research reputation did not seem to be an overriding factor in the applicant's choice of a teaching position. Carpenter and Carpenter (1970), in examining the factors that applicants considered in their selection of a teaching position, made the following observations on the importance of research for the development of librarianship:

> That this importance is so apparent to our respondents is not certain, for only a bare majority place it among the first three priorities. (It might be argued that research, too, is an element in "school's reputation," but there is little other evidence for this!) There are some surprising differences in the importance of research to graduates of different institutions. (pp. 22-23)

Lane (1975) reported that the "best predictors of the post-doctoral Publication Total seems to be the Pre-doctoral Publication Total and Years Elapsed B.A. to Ph.D." (p. 216). White and Momenee (1978, p. 211) on the other hand, concluded that predoctoral research publication appears to have no positive relation to postdoctoral research.

Most authors lamented the lack of research done by doctoral graduates after completion of the degree. The Danton study indicated that the situation in librarianship was not different from that in other fields in the sense that "a large proportion, and possibly majority, of those who earn the doctorate do not, thereafter, achieve a major scholarly work" after completion of a doctoral thesis (Danton 1959, p. 447). Richmond (1970) made the following observations: "A good proportion of Ph.D.'s in all fields produce little or nothing in the way of scholarly work, suggesting that the degree was obtained for reasons other than a desire for an intellectually oriented life" (p. 317).

Richmond (1970) proposed that "the Ph.D. in library science might be geared to attract aspiring researchers, teachers, and specialists, with some other kind of doctoral degree for administrators and general practitioners" (p. 317). She felt that there is enough room for both types of degrees on the doctoral level since the library field is broad and has come to the "point

where it can support specialists." She compares this differentiation on the doctoral level somewhat like the "division in modern physics between theoreticians and experimentalists" (Richmond 1970, p. 317).

Examinations

A variety of terminology was used to designate the examination phase, such as "quals," "prelim," "candidacy," "comprehensive examination," and "preliminary examinations." The options available were written examinations, oral examinations, and both written and oral examinations. There was a variety of approaches to the administration of the examinations as well as to the composition of the membership of the committee. Most authors agreed that the examinations were used as a measurement of mastery but not simplified to the level of the content of the first professional degree. Many crucial questions, however, were raised regarding the nature of the examinations. For example, should they test the general knowledge of librarianship or should they be restricted or limited to the area of specialization? How rigorous should the examinations be? Who should be responsible for administering the examinations?

Dissertation Committee

One encounters such terms as "dissertation research committee," "doctoral thesis committee," "dissertation advisory committee" and wonders why schools cannot agree on one designation for this committee. Most articles described the constituency of the committee—i.e., who can serve, number of members, and a representation of the student's outside area of concentration—and its function. There was general agreement that the committee's responsibility rested primarily in approving the dissertation. Slavens (1979, p. 235) conducted an opinion survey of graduates from one program regarding their perception of the role of the chairman of the committee in the determination of the dissertation topic and the availability of the members for consultation. Because of the limited number of studies on the proportion of dissertations supervised by individual faculty members, it is not possible to formulate a valid generalization. The Lane study (1975, p. 168), for example, indicated that, for a population of 289 doctoral students, no one advisor had over 7.5% as advisees. Houser and Schrader (1978, p. 66) reported that 35 (89%) out of 39 dissertations in one school were supervised by five faculty members (roughly 17.8%). In an unpublished paper, Schrader (1979, p. 14) pointed out that in one school during the ten years from 1968 to 1977, out of 57 dissertations, 46 (81%) were supervised by eight faculty members who averaged six advisees per advisor.

On the question of the dissertation committee, Houser and Schrader (1978, p. 66) posed two questions: What kinds of problems were studied under the

supervision of these faculty? and What was the relationship between the kinds of problems studied in the dissertations and the educational background and library experiences of the supervisor? Concomitant to these would be a question with political underpinnings—What prompted a student to choose one faculty member as a chairperson and/or a member of his/her committee? Obviously the logical rationale would be that the faculty member so chosen had the specialization on the subject of the dissertation—needless to say, this may not always be the case.

Faculty

During the 1960s, the problem of building a qualified faculty for doctoral programs in library and information science was emphasized in the literature. During this period there was a relatively low supply of doctorates. The term *qualified* meant a faculty that combined the knowledge and skill necessary for teaching at the doctoral level with the experience in research necessary to guide doctoral students. There was virtually complete agreement in the literature that schools needed to find a faculty combining professional competence required for the M.L.S. and D.L.S. with research competence for the Ph.D.

Two studies listed what doctoral recipients considered to be strength in a faculty (Slavens 1969, pp. 531-32; Hunt, Reed, and Woolls 1979, p. 245). Of particular interest was the fact that very little attention was given to "quality of teaching" and in some cases was not mentioned at all in the literature although it was suggested that "a topic in teaching methods" be part of continuing educational opportunities. There was more concern for the lack of time faculty devoted to students, for the faculty's lack of practical experience, and for the dearth of research conducted by faculty members.

Recruitment

Danton (1959) argued that the major obstacle to recruiting qualified candidates to the doctoral program was the "inadequate number and amount of research grants, fellowships and teaching assistantships" (p. 439). It would appear that the availability of federal support funds in the 1960s would have alleviated and partially answered the financial problems attendant to recruitment. Dalton (1968), however, observed that the "major problem has been and continues to be the problem of attracting to the profession our share of people capable of doing the job Weinberg and Overhage have in mind" (p. 327). (Weinberg and Overhage referred to people who are prepared to cope with the information explosion—the job of shifting,

reviewing, and synthesizing information.) Two years later, Carpenter and Carpenter (1970) echoed this view, stating that the "inadequate number and the selective recruitment of doctorates suggest the need for greatly increased financial assistance for doctoral study" (p. 35). Aside from financial resources, other factors cited in the literature as hampering the attraction of first-rate people to the doctoral program were: (1) no demand for the doctor's degree from public or special libraries, and (2) the general indifference of practicing librarians to the problems of academic research.

Recruitment should concentrate more on the rewards of teaching and research if library education is to be self-fulfilling and if librarianship is to have firm intellectual foundations. Carpenter and Carpenter (1970) recommended that selective recruitment begin "at an earlier age, in order to attract productive-aged younger persons into the profession" (p. 35). Danton (1959) observed that "it is almost as true today as it was a quarter of a century ago that librarianship offers little or no incentive or opportunity for the librarian to pursue research" (p. 440). It is still valid today. It would seem that certain problems have consistently plagued the profession, although the problems differ in their magnitude.

Importance and Contribution to the Profession

As early as 1949, Berelson discussed the whys, whats, and "so what" questions on advanced study and research in librarianship. The consequences of the doctorate degree affects three groups—i.e., the students, the schools, and the profession. For the students the programs offer them the opportunity to "learn something" and they "get good jobs in librarianship...an extremely effective springboard for upward mobility in the profession" (Berelson 1949, p. 219). For the schools, the doctoral programs, "when properly administered, have the effect of vitalizing the school, of keeping it plastic, curious, alert, alive....The second consequence for the schools is that...they exert more influence upon the profession...through their advanced students and their research programs" (Berelson 1949, p. 220). Berelson (1949) further stated that: "Just as the major consequence of advanced training in librarianship is the increment in personnel, so the major consequence of research in librarianship for the profession generally is the increment of knowledge which it has provided" (p. 222).

The post-Danton literature echoed similar sentiments. DeHart (1969) gave her personal assessment of the impact of the doctoral program in her career as follows:

> Although certain changes in the Rutgers doctoral program have been suggested in this paper, this graduate feels that the program has been highly relevant to her

> subsequent library work, teaching and other library related activities. Paramount among its strengths is the fact that the program is deeply rooted in high standards of scholarship. (p. 322)

The degree served as a passport to top administrative positions. To a certain extent it enabled graduates to accept top level positions that it otherwise would have taken them 5 or 10 years to reach. In an academic setting, the doctorate afforded the librarian "a kind of parity with faculty, a higher acceptance rating with appointment committees, and a status which his later performance will not adversely modify" (Harlow 1968, p. 485).

The importance placed on an earned doctorate for faculty appointment in library schools cannot be minimized. The degree is an essential prerequisite to a tenure-track position and membership in the administration's graduate school council. White and Momenee (1978) emphasized the significance attached to the degree in "establishing and retaining status for the school within its own academic setting is recognized, cannot be ignored, and is probably behind much of the recent upgrading in educational requirements for faculty in library schools" (p. 212). Furthermore, it should be acknowledged that library schools are cognizant of the "stress placed by the accreditation teams on both the number and diversity of earned doctorates as an indication of faculty competence" (White and Momenee 1978, p. 212).

Two authors looked into the status and image of the doctoral degree in library and information science. The directors of doctoral programs in seven library schools "expressed secure feelings about the status of the library science doctorate" (Marco 1967, p. 12). Carpenter and Carpenter's (1970) study of the prestige of the doctoral degree in library and information science viewed from the outside concluded that:

> Deans and doctorates felt as follows about the way in which non-librarians consider the library science doctorate in comparison with other doctorates: 32 percent felt that it rates "near the bottom," only four percent "near the top," and the majority "in the middle." It would seem that corollary to the sentiment about the substantiality of the field, about one-third feel outsiders rate the degree poorly. (p. 30)

There seems to be a curious ambiguity in the attitude of the profession on this issue. It would be helpful from the standpoint of truth and reality to poll the opinions of other disciplines regarding the doctorate in library and information science. Such a poll would shed light on questions such as: Are outsiders aware of the existence of the doctorate degree in library and information science? How do they rate it in comparison to their own discipline as well as other doctoral programs?

Danton (1959) contended that "a respectable percentage of the dissertations constitutes genuine contributions to learning and has significantly increased our knowledge and understanding" (p. 448) of the problems and issues confronting librarianship. To Danton this is one of the strengths of the doctoral program. The post-Danton literature indicated that graduates felt that the value in the preparation of the dissertation was useful in their jobs and that the dissertation had a bearing on the solution of problems in librarianship. Slavens's (1979, p. 237) study of dissertations accepted at the University of Michigan library school found that 35% of the respondents who had accepted positions in library schools considered the preparation of the dissertation as highly useful for the content of the courses which they had taught. On the other hand, 24% of those who had accepted administrative positions considered the preparation of the dissertation as useful to their administrative work.

Issues and Problems

Five articles written in a period of twelve years (1967-1978) touched on some of the issues and problems facing doctoral programs. These can be categorized as follows: program structure, curriculum content, status of research, and recruitment.

The complaints directed at program structure and curriculum content were varied. On program structure, Carpenter and Carpenter (1970) reported that "many of our elite group [refers to doctorates who are exceptionally influential in library administration and library education] feel that doctoral study is not well-organized at even the better schools, that there are too many irrelevant barriers to early completion of the degree" (p. 35). The authors contended that early completion of the degree could be facilitated by "organized efficiency" coupled with "good faculty relationships." Schlachter and Thomison (1974a) called for the reconsideration of procedures for establishing doctoral programs in library and information science. It is disturbing to see that "a large number of doctoral degree granting programs have been developed....Some of these programs are so small in output that on an expenditure basis alone they should be examined carefully by the parent schools" (p. 109).

The doubts and uncertainty in the profession as to the graduate character of library science had permeated the doctoral program. Osborn (1967) noted that in some instances library school faculty members "deny that there is any basic difference between first-professional—degree and doctoral studies, either *in* subject matter or level of comprehension" (p. 161). This attitude is exacerbated by the fact that in a number of programs

doctoral students take courses that are on the master's level. Osborn (1967) stressed that for a program to be successful in producing graduates who have research and teaching competencies "there must be some built-in device, a proseminar or the systematic help of an advisor, to mark the jump that must be made to a more advanced point of view" (p. 161). Shera (1972) expressed the opinion that:

> A program which purports to produce graduates who have the competencies required for professional research and teaching in librarianship, must concentrate on formal study of the theoretical bases and their areas of application. It must provide advanced study in subjects and fields pertinent to librarianship and its problems and be focussed on theory and knowledge (Wissen) rather than the acquisition of skills (Koennen). (p. 409)

In Dalton's (1968) point of view, the most pressing problem facing American librarianship, particularly doctoral programs, was the "job of selective *recruiting* at a high level." He charged that library education had "done very little of this kind of recruiting and it will not be easy to persuade the people we need most" (p. 327). He suggested that the major problem had always been the profession's inability to attract people who are prepared to cope with the information explosion.

One of the more important issues associated with doctoral programs is the status of research—primarily the attitude of the library profession toward research. The contention that librarianship did not lend itself readily to scientific research has beleaguered the profession for years. This attitude was compounded by reluctance on the part of librarians to explore the intellectual and theoretical foundations of the profession. Shera (1972) attributed the root cause of the problem to the fact that "the task of defining basic research for an activity or profession that, over the centuries, has been service, rather than research oriented, is not easy" (p. 407).

White and Momenee (1978) aptly summarized the issues confronting doctoral programs as follows:

> The existence of doctoral graduates (in the library field as in others) who admit to having no interest in research—and it can be assumed that the real number is larger than the 24.7 percent in this survey who admit doing no research unless forced to—would appear to be a sharp indictment of the quality of present doctoral programs: in their selection criteria, in communicating to students the conditions and responsibilities of what the terminal degree means and requires, in the school's treatment of research, and in the acceptance of lesser standards in the undertaking of research leading to the dissertation. (p. 213)

With more doctorates joining the faculties of library schools, Schlachter and Thomison (1974a, p. 109) raised a series of questions about the nature of doctoral programs: In what ways does the doctorate prepare individuals to be better teachers? What provisions are there in the doctoral programs

for courses in teaching techniques, classroom management, etc.? What changes in the D.L.S. program should be made to prepare the large proportions of recipients who go into library education rather than administration? These questions indeed, need serious consideration, if not an answer.

DOCTORAL THESES

This section analyzes the published literature on doctoral theses in library and information science since 1959. Of the 35 publications, 21 (60%) were on theses per se and the remaining 14 (40%) were parts of publications dealing with topics other than theses—i.e., doctoral programs and or doctoral graduates. The aspects examined were the schemes used to categorize dissertation topics, factors that influenced the choice of topics, research methodology utilized, length of time to complete the dissertation, and their disseminations and use.

Five bibliographies of dissertations (in book format) were published between 1969 and 1980. There was considerable overlap in time period and scope covered in each bibliography. Two publications (Cohen, Denison, and Boehlert 1963; Schlachter and Thomison 1974, pp. 256-62) went as far back as 1925, the year the first dissertation on a library-related topic was completed at the State University of Iowa. Three bibliographies (Eyman 1973; Davis 1975; Davis 1980) issued by University Microfilms went as far back as 1930, the year the first dissertation was completed at the University of Chicago. Eyman and Davis (1976) included only dissertations accepted by accredited library schools; whereas Cohen and Schlachter and Thomison included dissertations which were accepted by library schools or other departments but were in library-related topics. The lists were arranged in either one or a combination of the following: alphabetical, chronological, and classified order. Updates to these lists were available in at least two sources: *Library Quarterly* and *Journal of Education for Library and Information Science.*

The Schlachter and Thomison bibliography, which covered 1925-1972 together with their 1982 compilation covering 1973-1981 (Schlachter and Thomison 1982), constitute the most extensive lists of dissertations on the field. The two lists will considerably ease the complaints directed at the library profession for its failure in providing better bibliographic control of dissertations in library and information science. A tabulation of bibliographies published after 1959 showing the period covered, number of dissertations included, and scope and arrangement of each list is found in Appendix B.

Danton's analysis of doctoral dissertations covering the year 1930 to 1959 included only theses accepted in doctoral programs in library schools. It must be noted, however, that the main purpose of Danton's article was not to provide an analysis of the results of doctoral studies but to argue for increased support of the programs. On the other hand, the Schlachter and Thomison (1974, p. 95) study included all dissertations which were either accepted by library schools or other departments on library related topics. It divided the years 1925-1972 into three distinct periods: pre-1960, 1960-1969, and 1970-1972.

Institutions were examined in relation to different factors. For example, Danton arranged institutions by subject of dissertations, Cohen correlated institutions by type of degree earned, and Brace (1975) ranked institutions by number of dissertations accepted.

One is amazed at the variety of schemes used to classify dissertations according to subject content. The first attempt was made by Danton. He classified dissertation topics into the following eight categories: background; organization and administration; resources; reader services; technical process and documentation; personnel and education; international, comparative, and foreign librarianship; and methods of research and evaluation, standards, and surveys. In turn Cohen, Denison, and Boehlert (1963), O'Connor (1978) and Houser and Schrader (1978, pp. 70-73), used the Danton list in their studies. On the other hand, Brace (1975, p. 16) established ten separate categories but used Danton's eight categories as a subject in each of his ten categories. LaBorie and Halperin (1976, pp. 271-83) based their classification on a scheme developed by Saracevic and Perk (1973) for their study of library science journal articles. Other authors developed their own schemes.

Danton's (1959) analysis of dissertation topics showed that the primary research interest in librarianship was in the areas of library history, and history of books and printing and publishing. He decried the dearth of studies on "distinctly library subjects." He further stated that "two subjects: reference, information, and advisory services; and cataloging, classification, and subject headings" considered to be the "most important and fundamental of our library activities [were the subject of] only 9 dissertations, or 7% of the 129 dissertations written between 1930 and 1959" (p. 436). In contrast, LaBorie and Halperin (1976), in their analysis of citation patterns in library science dissertations between 1969 and 1972, reported that of the 186 dissertations, 45% were on administration and materials; 21% on library services—i.e., reference, circulation, library cooperation;

15% on historical topics; 14% on technical processes; and 4.8% on automation. Based on the data the authors concluded that:

> Thus, the emphasis of the research appears to be on the practical matter of the operation of libraries—how they are administered, who administers them, and the types of materials and services they provide. The dissertations on historical subjects stand out as a unique group. They represent 15 percent of the group sampled and yet account for nearly half (45.7%) of the citations. Technical processes, classification and indexing received less attention. Automation and its impact on libraries have as yet received little attention from doctoral candidates. (p. 274)

O'Connor (1978), in her study on the extent of dissemination and use of 1,206 library science dissertations and books based on them (confined to citations located in journals indexed in *Social Science Citation Index* for the years 1970-1976), found that:

> As far as the dissemination and use of the 312 dissertations found to have been cited, that 36.2 percent or 113 were classified in the background category. Not all were of an historical nature, for thirty-seven of the 113 were on various topics such as use and users of libraries and censorship.
>
> Technical Processes and Documentation as a subject of dissertation research was the second largest category with sixty-two or 19.9 percent of the dissertation topics classed therein. (p. 189)

Although the two studies had different objectives, their findings seemed to imply that the trend in dissertation topics was moving more toward nonhistorical studies—quite a change from earlier dissertation topics where "historical studies have in the main, predominated in library science dissertations" (Houser and Schrader 1978, p. 73).

At this point, one is inclined to ask: What prompted the choice of a dissertation topic? The literature provided conflicting reports. Brace (1975) indicated that "to some extent, the Topics and Activities investigated by dissertants may depend largely upon the interests of dissertation advisors rather than needs of the profession" (p. 70). Compare this finding with Slavens's (1979) survey of one school's doctoral graduates which reported that "ninety-three per cent of the doctorate holders felt no pressure by the committee or the school in any way in the choice of their topics" and "only 44 per cent of the respondents indicated clearly that their own dissertations had been intended to solve a problem in librarianship and 28 percent felt that they had succeeded" (pp. 234, 238).

It appeared that students had the freedom in the choice of their research topics. In allowing this desired flexibility, the process placed a premium upon the initiative of the student and upon the role of the research advisor. To a certain extent this freedom of choice may account for one of the shortcomings of dissertations that Danton (1959) described as the "insufficient accretion of the results of doctoral research" which he attributed to a

"number of largely uncoordinated studies on relatively small aspects of the profession" (p. 450). The lack of coordination was described by Houser and Schrader (1978) as follows:

> Brace and Lane both completed their dissertations in 1975 and were unable to draw from each other's findings; O'Connor completed her dissertation later but did not use their work directly in focusing her investigation. Thus, these three studies are related only in that each has studied some part of the general phenomenon of library science dissertations. (pp. 379-80)

The importance attached to the selection process of a dissertation topic and on the dissemination of its findings in the field of social studies was underscored by McPhie (1960), to wit:

> They [doctoral candidates] should be concerned with how their thesis topics are selected and they may wish to choose areas of research and research techniques that will help fill apparent gaps in the research that has preceded them.
>
> In addition, however, if the resultant dissertations are to be of *real* value to the field of social studies education, their findings must be disseminated. (p. 385)

This concern could very well apply to the library and information science field. In view of the apparent gaps in the research, Fry (1973, p. 254) suggested that the problem of uncoordinated studies could be minimized if library science research centers would act as a clearinghouse where doctoral students could go for assistance in their research and at the same time be a source where doctoral students could draw topics from larger research projects underway. The advice Danton (1959) made almost 20 years ago is still sound:

> The schools singly or in combination, might develop substantial and important research projects, secure financial support for such projects from foundations, and then seek or assign students to assist in the prosecution of these projects. In addition to furnishing financial help for student, this approach should have the additional value of providing a more systematic attack on needed areas of investigation. (p. 440)

Although several publications analyzed the research methodology used in dissertations, the Schlachter and Thomison (1974a) study offered the most detailed analysis. It listed six types of research methods and examined the association between method used and type of degree, sex, dissertation completed, changes made, and completion time. Like the Danton study, the post-1959 literature on research methodology indicated the heavy use of historical and survey methods. Several authors expressed their concern regarding the type of research design employed in most dissertations and similarly the need to shift emphasis from historical or descriptive research to experimental research. On the other hand, Shores (1972) would like to see students encouraged to pursue "humanistic creation" as well as "scientific research" (p. 24).

In contrast, Shera (1972) described the predicament librarians had to wrestle with in fulfilling the demands placed on research:

> Because research had for so long been foreign to librarianship, when librarians did take the plunge they became overenthusiastic converts to method....Because librarianship used as a model the methods of social science research, it relied so heavily upon statistics that, for a time, research in librarianship came to mean, almost inevitably, statistical investigation; and the value and significance of a research project came to depend upon the demonstrated degree of skill in statistical manipulation. (p. 417)

The situation on research methodology has not radically changed since the Danton study. The question is: Is there a real need to shift emphasis on research methodology? If so, what is the faculty doing to remedy the situation? Perhaps some schools have shifted emphasis in the dissertation focus while others do not see the need. Is it because in certain cases the faculty would not accept any dissertation other than that which is experimental in design? Is it because the faculty's orientation is more toward historical or bibliographic methods? Is it because both faculty and students have a commitment to a certain type of research methodology?

How long does it take to complete the dissertation? Two studies answered this question, one of which had a sample of 15 doctoral programs and the other a sample of graduates from one library school (Schlachter and Thomison 1974a, p. 102; Slavens 1979, pp. 235-36). Though the sampled populations were not exactly similar, both studies agreed that on the average, it took a little more than two years to complete the dissertation.

Schlachter and Thomison (1974a) found that a significant relationship existed between dissertation completion and research methodology employed. Their findings showed that: "Proportionately fewer students proposing to employ historical analysis in their dissertations ever completed the work; for every three historical papers approved, two had not been finished by the end of 1972. Students employing survey research methods were the most likely to complete their papers" (p. 102).

The study further noted that neither the sex of the recipient nor the research method employed had a direct relationship to completion time. Males and females completed their theses at the same rate. Students using historical research finished their papers in about the same time as those utilizing other research techniques. In addition, the study found that the research techniques used were not a significant predictor of changes made in the completed thesis. However, there was a significant relationship between the changes made in the topic and the amount of time it took the student to complete the thesis. The more time the students took to complete their dissertations, the more likely they were to modify or replace

their originally proposed topics. Those who took more than two years to complete their work tended to modify their original proposals.

Another aspect studied in the literature is the dissemination and use of dissertations, defined as the extent to which the dissertation resulted in some type of publication and used in the flow and transfer of information. Although the stated objectives of the O'Connor (1978) and the LaBorie and Halperin (1976) studies differed, both did a citation analysis of what materials were cited in dissertations. The studies indicated that dissertations seemed not to be a significant item as a cited publication and ranked quite low compared to other types of materials. O'Connor reported that dissertations provided 3.6% of the total citations in dissertations while LaBorie and Halperin indicated a 2.8% relative frequency of citations. It should be noted, however, that in the LaBorie and Halperin study, dissertation was defined to include both master and doctoral theses while the O'Connor study included doctoral theses only.

O'Connor (1978) remarked that "library science dissertations have received some attention in the literature but not a great deal of such attention has been directed to their dissemination and use" (pp. 66-67). Schlachter and Thomison (1974a) pointed out that perhaps the reason for this lack of dissertations attention may rest in part on the lack of effective bibliographical control of dissertations:

> The problem goes beyond that of a doctoral student trying to ascertain what research has been done in a given area. It is a problem which affects the entire field. The practicing librarian cannot be expected to utilize scholarly research if it is so difficult to gather and if it does not represent the whole realm of research when it is gathered. Steps need to be taken to overcome this deficiency. (p. 110)

The recommendation in the O'Connor (1978) study may help alleviate the situation—"publication of a dissertation as soon as possible after its approval is very desirable, for information therein will be timely" (p. 193). It was apparent from her study that dissertations were cited much later than other publication formats. Though it may seem farfetched, perhaps one way to ensure and force the timely dissemination of dissertations is for library schools to consider, as part of the degree requirements, publication of the dissertation in a form of journal article, chapter of book or a book. After all, if a dissertation is a contribution to the body of knowledge it should be publishable and made available to the public at large.

Dalton (1968) remarked that the "concept of the dissertation as an 'original and significant contribution to knowledge' has given way to the concept of the dissertation as an 'instrument of research and training'" (p. 321). Ten years later, Slavens's (1979, p. 236) findings would support a similar conclusion.

Schrader (1979), in his assessment of "the success of recent doctoral research into the phenomenon of library science Ph.D. dissertations," (p. 377) pointed out that the three dissertations about library science dissertations "have added an important empirical dimension to earlier surveys" and provided "evidence that what we thought was so, is so" but "have not produced any new scientific knowledge" and "have not explained why library science dissertations as a whole appear to be of such uneven quality or of so limited use to the profession" (pp. 382-83).

The literature has provided a piecemeal explanation for the existing lukewarm attitude of practitioners to the value of library science dissertations. A complaint often raised in the literature is the fact that dissertation topics were too theoretical and specialized in nature and had no direct appeal to practitioners nor did they have direct relevance to the day-to-day operations in the library. Danton (1959) conjectured that perhaps one of the reasons for the dissertation falling "short of achieving its fullest potential" is due to the fact that:

> Many, and very likely most, dissertations, highly specialized and often theoretical in nature, are of a kind which hold no interest for the librarian "in the field" and have no direct impact upon the work-a-day library world. To say this is to criticize neither the dissertation nor the practicing librarian.
>
> At the same time, it seems probable that the profession at large has not taken as full advantage as it might have of the results of doctoral research. Whether this is because the activity cannot be sufficiently popularized...or because of some other reason is far from clear. (p. 449)

Shera (1972), discussing librarians' antipathy for research, stated that:

> This poverty of research in librarianship was explained by C.C. Williamson, in an address delivered at Western Reserve University in 1930...as a consequence of the fact that librarians are basically empiricists, untrained in research and the scientific method. There exists, he charged "a deep-rooted prejudice among library workers against subjecting their activities to scientific scrutiny." This was undoubtedly the attitude of the typical librarian in 1930, and there is still much of it today. Research is emotionally disquieting, it does question old beliefs and sweeps aside tradition, often leaving in its wake disbelief, uncertainty, and shattered ideals. (p. 416)

Although most graduates felt that the value of the preparation of the dissertation is useful to their jobs and that the dissertation tends to be relevant to the solution of problems in librarianship, White and Momenee (1978) once again echoed Danton's and Shera's concern for the "disdain practitioners express for the significance of the results of completed research, research they (rightly or wrongly) consider largely irrelevant" (p. 214). It seems bewildering to find that, after 25 years, this disparaging attitude of practicing librarians toward the dissertation topic has prevailed. Why has this attitude endured? Could it be that librarians think of themselves as their own problem-solver? Could it be that librarians feel

tempted to believe that there is no real need for systematic research in library and information science since most library problems tend to lend themselves to a "seat-of-the-pants" decision?

DOCTORAL GRADUATES

What are the characteristics of doctoral graduates—e.g., age, family and educational background, geographical origins? Where do they go and what do they do after they graduate? To what extent does the post-1959 literature on doctoral graduates in library and information science answer these questions?

Most of the information with respect to these characteristics appeared after 1970, the year that marked the publication of "The Doctorate in Librarianship and an Assessment of Graduate Library Education," by Carpenter and Carpenter (1970). This publication may well be considered as the most comprehensive description of selected socioeconomic factors characterizing the doctoral population.

Socioeconomic Factors

The six variables examined by Carpenter and Carpenter (1970, pp. 7-27) were: age, marital status, religious affiliation, father's occupation, status of women, and salaries. Two of these variables (religious affiliation and father's occupation) were not covered in any other publications. The study noted that there were very few doctorates who were below 40 years old (79% were over 40). It is interesting to compare these data with that in other fields as reported in the National Research Council's study of doctoral recipients which indicated that a typical Ph.D. recipient is about 30 years old at graduation—younger in the sciences, older in the nonsciences, particularly education (National Research Council 1978). One could speculate that in the case of doctorates in library and information science the age difference may be due to either a late career choice on the part of the graduate, or, like any other professional degree, the recipient had to fulfill the two or more years of professional experience required for admission to the doctoral program (a number of library schools have either waived or dropped the two-year professional experience requirement for admissions). Carpenter and Carpenter's study further noted that there were more married than single males and more single than married females in the doctoral population. This difference is accounted for in part by "the greater motivation of men to further their careers in order to provide more amply for their families" (Carpenter & Carpenter 1970, p. 9). This may well

be true, but what is left unsaid is the fact that perhaps, in most cases, the married male's career advancement took precedence over the married female's career, assuming that both spouses were career-oriented.

Carpenter and Carpenter's (1970) study indicated that the combined figures for "professional and technical occupations with those for managers, officials and owners" accounted for 45% of the total group of doctorates' father's occupation. As a group, persons in these occupations were "clearly education-oriented and print-oriented" belonging to the "affluent, middle-class and upper-middle class" (Carpenter & Carpenter 1970, p. 10). Of religious affiliation, the study suggested the need to "inquire of ourselves...as to the *importance* of this factor to the profession and the public it serves" (Carpenter & Carpenter 1970, pp. 9-10). It acknowledged the problems involved in assessing the religious affiliation of graduates (Carpenter & Carpenter 1970, pp. 9-11).

Three studies examined a number of variables comparing socioeconomic factors between male and female graduates, namely: Marco (1967), Carpenter and Carpenter (1970), and Schlachter and Thomison (1974a). Marco (1967), in 1965, concluded that "women graduates have been more likely to go into library school teaching than into administration" (p. 12). Carpenter and Carpenter's (1970) study tends to support Marco's findings in that "while 61 per cent of the men, by this analysis, are major executives, only 40 per cent of the women are so employed; men clearly either seek or are favored more than women for top positions in administration" (p. 14). Likewise, Schlachter and Thomison (1974a), indicated that "women doctorates, especially, gravitated toward university teaching; proportionately more women were represented among the faculty (66%) than were males (58%)" (p. 104).

Three articles examined the post-doctoral destinations of recipients. Curiously enough, one will discover that the authors tended to look at this characteristic from different points of view. For example, Carpenter and Carpenter (1970) defined postdoctoral destination of recipients as that "of finding employment in areas other than their birthplaces" (p. 12); Schlachter and Thomison (1974a) looked at it as "holding jobs in the same state or in a state contiguous to the location of schools at which they earned their degrees" (p. 105); Hunt, Reed, and Woolls (1979, p. 242) examined it in terms of the recipients remaining in a present position or who plan to change positions. There was evidence of graduates moving around since the sixties, resulting in a more equitable distribution of the doctoral population.

Educational Background

The Lane (1975, pp. 142-51) study was the only publication that analyzed in detail the educational background of doctoral recipients, such as institution where the first professional degree in library and information science was awarded, second masters degree in a subject field, undergraduate major concentration, and the years lapsed from the B.A. to Ph.D. and M.L.S. to Ph.D. degrees. These variables were correlated with the doctoral graduates' level of research productivity. For undergraduate major, English was the most predominant (34.7%), followed by history (15.1%), and language (10.5%), social sciences (9.5%), sciences (10.9%), humanities (6%), and arts (2.1%).

The institutions where more than 3.5% of the doctoral graduates sampled received their M.L.S. degree were: California (Berkeley), Case Western Reserve, Chicago, Columbia, Illinois, Michigan, and Rutgers. Interestingly enough, these were library schools where doctoral programs were established prior to 1960.

Position Held and Salaries

There was considerable interest in the literature on what graduates do after they received their degrees. Of the 18 publications on doctoral graduates, 10 (55.5%) covered the topic. Two publications examined in detail the influence of a number of factors in determining positions held (Carpenter & Carpenter 1970, pp. 114-15; Schlachter and Thomison 1974a, pp. 104-05). For example, both studies correlated the distribution of types of position held by gender; Carpenter and Carpenter (1970) focused on variables that may influence the selection of a teaching position such as birthplace, present residence, climate, race, political relations, size of community, geographic preferences, school's location and reputation, and research opportunities. On the other hand, Schlachter and Thomison (1974a) correlated position held with type of degree earned and geographic location.

The variety of terminology used to categorize types of positions held by doctoral graduates is shown in Appendix C. In addition, a number of studies gave only percentages, some only frequency counts, while others gave both percentages and frequencies. Appendix D summarizes the data in the literature. Based upon the available information given in Appendix D, the only meaningful statement that one could come up with is that there seems to be a general agreement that the trend has not changed since the Danton (1959) study which found that, "the great majority of those continuing for the doctor's degree are, for one reason or another, oriented toward an academic career of some kind" (p. 444).

Nevertheless, Dalton (1968) predicted that the trend

> will change among librarians as it has in other areas. The needs of organized research outside the universities will undoubtedly claim an increasingly large share of the products of the library schools. Berelson points out that the "organization in this country that employs most Ph.D.'s today is not Harvard or Yale or Illinois or Michigan. It is Du Pont....General Electric has more than twice as many Ph.D.'s on its staff as Princeton, Shell has more than M.I.T., Union Carbide or Eastman or IBM has about as many as Northwestern or Cal Tech." Government's demands are enormous and increasing and Industry will continue to increase its demands. (p. 325)

The unchanged career orientation toward the academe was documented in studies by Marco (1967, p. 12), Slavens (1979, p. 233), Carpenter and Carpenter (1970), Schlachter and Thomison (1974a, p. 108), and White and Momenee (1978, p. 209). Schlachter and Thomison's (1974a) report aptly expressed the consensus that:

> Over 85 per cent of the library science doctoral recipients employed in the 1970's worked in an academic environment; almost no use was being made of doctorates in public, school, or special libraries. While most doctorates in the 1950's and 1960's took staff positions in academic libraries, the majority of doctoral recipients in the 1970's worked in faculty positions. (p. 104)

In the light of these findings, one is prompted to ask the following questions: (1) Will the trend in the positions held by doctoral graduates in library and information science in the 1950s, 1960s and 1970s continue into the 1980s? (2) Why did the change to nonacademic employment of doctoral graduates as anticipated by Dalton in 1969 not occur? and (3) Is it sheer folly to think that a major shift in career orientation from the academe to industry, government, or perhaps public and school libraries will really come to pass during the late 20th or, even yet, 21st century?

Carpenter and Carpenter's study (1970, pp. 16-21) is the only source that provided a detailed disclosure on salaries of doctoral graduates. It included a number of cross-tabulation with other variables on the plausible supposition that such variables as age, sex, religious affiliation, region of residence, institution where degree was earned may partially account for differences in income. Salaries of doctoral recipients were also compared with the salaries of nondoctoral teaching staff as well as doctorates in other fields.

For those who are interested in a profile of women who earned the doctoral degree in the period from 1925 to 1975, the study by Dale (1980) provides a detailed description of this population in terms of education, professional experience, present position and salary, professional contributions and personal characteristics.

Research and Publication

For the remainder of this paper, the focus will be on one of the most challenging issues confronting doctoral programs and recipients. According to the Danton (1959) study, one of the objectives of the doctoral program is to "organize, conduct, and publish studies which will extend the bounds of knowledge in fields pertinent to the theory and practice of librarianship" (p. 438). As early as 1959, Danton (1959) stated that:

> a large proportion, and possibly a majority, of those who earn the doctorate do not, thereafter, achieve a major scholarly work...most of those who have earned the doctorate in librarianship have not subsequently produced *research*, though many have written useful and even important contributions of various other kinds. (pp. 447-48)

Likewise, Danton underscored the distinction between having published and having published a scholarly research publication. Since the Danton study, five other publications expressed a similar note of pessimism in research productivity of doctoral graduates, although Bloomfield (1966, pp. 109-19) reported that librarians with the doctorate write substantially more than librarians without the degree.

It has been suggested that the relatively low productivity in research among doctoral graduates may be due to the fact that:

> More than half of the graduates are currently employed as chief administrative librarians. The requirements of these posts and the climate of administrative activity provide little time, opportunity, or incentive for the production of scholarly research, regardless of the other kinds of contribution which the doctoral graduate may make as an administrative officer. (Danton 1959, p. 449)

Two surveys conducted in the 1970s on "position held" by doctoral graduates indicated that more than 50% (60.6% by Schlachter and Thomison figures, and 51.3% by White and Momenee figures) were employed as faculty in library schools and a little more than 30% as library administrators. Obviously the type of positions held by doctoral graduates had reversed; equally obvious would be the expectation that post-1959 doctoral recipients would register a higher rate of productivity. However, Lane (1975) reported that most doctoral graduates do not regularly produce scholarly publications subsequent to their dissertations: "The data showed that, for the population of 289 doctoral graduates in librarianship who received their degrees between 1930 and 1969, 39 percent had no further scholarly publications after the dissertation, and 73 percent had fewer than four scholarly publications" (p. 226). The White and Momenee (1978) study affirmed the "existence of doctoral graduates (in the library field as in others) who admit to having no interest in research" (p. 213).

In view of this sharp indictment on the research productivity of doctoral graduates, one is inclined to believe that doctoral programs have failed in

part to achieve one of their stated objectives. Yet obviously the fault does not lie with the doctoral programs alone nor with doctoral graduates. Library schools may need to exert more efforts to communicate what the research process is all about.

The questions that need to be answered are: Why is there a lack of commitment to research on the part of doctoral graduates? Are the selection criteria used to admit students to doctoral programs faulty? What are reliable predictors of a productive doctoral graduate? To this last question Lane (1975) had developed the following profile of a productive doctoral graduate in library science based on her study of the characteristics of graduates from 1930 to 1969:

> a male who majored in philosophy, the social sciences, or sciences as an undergraduate. He finished his master's degree in librarianship in five years, and his Ph.D. in twelve years, after receiving the B.A. He worked in a library for about seven years before receiving the Ph.D.... from Chicago or Rutgers, and wrote his dissertation on an aspect of library practice or contemporary setting. (p. 170)

Perhaps the profession needs to set up an ad hoc committee to conduct a study on the root causes of nonproductivity and to make policy recommendations that library education could use as a criteria for admissions to the doctoral programs as a "tentative answer." Needless to say, admission requirements should consider the findings reported in various studies.

The existence of a wide range of individual characteristics of the doctoral population in library and information science has been described in the previous discussion. What follows, then, were two profiles of doctoral recipients in library and information science as described in the following sources—Carpenter and Carpenter (1970): "typically the doctorate is male, 'middle-aged', from a professional or business family, and employed as an administrator" (p. 35). Schlachter and Thomison (1974a): "a male, using survey research methods at one of six major universities...working as a faculty member in the North East or Middle West (far away from his degree granting school) teaching courses which relate in part to his dissertation" (p. 108).

The two profiles complement each other. But it is rather interesting to note that the 1970 profile characterized the recipient as an administrator while the 1974 profile as a library educator. Although the two studies came up with complementary data, their stated objectives and methodology employed differed considerably. Whatever characteristics were being considered, the fact was that individuals differed considerably in terms of age at doctorate, sex, time spent in earning the degree, career goals, professional experience, and writing habits. However varied these qualities may

be, the question is: Is it possible, in spite of the wide range of individual differences, to arrive at a "typical profile" of a doctoral graduate in library and information science? Or are there other factors, aside from those already examined in previous studies, that need to be looked at to best describe a doctoral recipient?

POSTSCRIPT

It should be noted that two publications on doctoral programs (not included in this study) have recently appeared. One is a *Library Trends* article by Bobinski (1986) and the other is an Occasional Paper prepared by Reid (1987). Bobinski reported on the results of his survey of doctoral programs in the United States and Canada. It updates Danton's study and the 1960-1980 literature in terms of the following aspects: admission and course requirements, quality of doctoral programs and students, and the importance of the doctorate. The survey provides valuable updates on statistical data concerning enrollments (1979-1984), number of doctoral degrees awarded per year (1961-1981), number of doctorates per institution (1930-1979/80), and HEA II-B doctoral fellowship awards (1960-1985).

Reid collected and tabulated information from 17 doctoral programs on what he labeled as "four indications" of library and information science doctoral degree programs. These indicators were faculty publications, curricula, dissertations, and doctoral students' responses on the following aspects of the doctoral program: reason for attending, areas of strength and weaknesses of the curriculum, and research orientation of the doctoral program. Reid admits that his survey offered no evaluation of the programs examined.

CONCLUSION

This review and analysis of the published literature from 1960 to 1980 has shown that, though there were a number of studies on the different aspects of doctoral programs, theses, and graduates, no one publication can be singled out as "definitive" and covering all three aspects. The literature was rather an extension of the intent of the Danton study—i.e., to examine and review the status of doctoral programs and their contribution to the library profession. And as in Danton's study, all of the six programs established prior to 1960 monopolized the literature, thus representing barely 30% of present programs. From the evidence in the literature, a number of questions raised in the Danton study have emerged as major

topics, such as contribution to the profession of the doctoral program, subject of and methodology employed in dissertations, research productivity of doctoral graduates, etc. Although certain studies have updated, in part, the Danton study, these are scattered in the literature.

There are many issues which have not been settled nor resolved. The situation in a number of issues (i.e., selection of dissertation topic, research orientation of the doctoral program, recruitment, financial aids, etc.) has not radically changed since the Danton study. The issues are not so much like meteorites which suddenly appear but are more like planets—their orbits may vary but each appear at some stated intervals. It is tempting in some ways to rationalize and take comfort in the belief that there is really nothing new under the sun in the doctorate in library and information science.

A number of studies have questioned the insufficient accretion of the results of doctoral research and suggested that this could be attributed partly to a "number of largely uncoordinated studies on relatively small aspects of the profession." What we need to be doing now and then is to ensure that we are doing better in minimizing uncoordinated studies. One can speculate that doing something in this area could be a vital factor and may be the key in unraveling the answer to the question of whether there exists a substantive body of knowledge in the field of library and information science. A great deal of work has been poured into dissertation research by doctoral students, but it should not continue as separate and distinct efforts. We need a more systematic approach to doctoral research.

The unheeded research findings of previous studies need to be reviewed. Such seminal works as Carpenter and Carpenter's assessment of the doctorate in librarianship and Schlachter and Thomison's analysis of doctoral dissertations and graduates are but examples. Both studies have raised a series of questions that need to be looked into and answered. These papers have missed their targeted audience all these years and need to be reviewed and revived.

The majority of publications were nonquantitative studies. Description of and issues related to doctoral programs characterized their content. Analysis of doctoral dissertation and graduate thesis dominated the quantitative studies. The database and methodology used in these studies varied. Comparison of results of studies would present problems and would not be entirely valid because of the differences in the database and methodology utilized.

What is still needed is to do a replication of a number of earlier studies drawing upon their objectives, databases, and methodologies. The study

would offer a composite of updated findings of previous investigations and include variables that have not been examined in the past. As such, much insight can be provided that can yield a more realistic and integrated picture of doctoral programs, theses, and graduates. Clearly there has been a tremendous growth in these areas in the years following the Danton study. This is a tall order, but if doctoral programs in library and information science want to make improvements, it can no longer ignore the question—Why doctoral programs and research are where they are and not where they should be?

APPENDIX A

Table of Categories

Doctoral Programs

Admissions: age, experience, grade point average (GPA), GRE, MLS degree.

Courses: Credit hours, content, format, major area (specialization), minor area, required, electives, length of time to complete.

Competencies: Foreign language, research.

Degrees: Earned, status, types, length of time to complete (includes attrition and withdrawals).

Examinations (quals, prelims, candidacy, comps): orals, written.

Committees: advisory, research (dissertation, theses)

Faculty
Recruitment (includes financial aids)
Objectives
History
Ranking
Contribution to the profession
Issues and problems (including weaknesses of programs)

Doctoral Theses

Statistical Data: general, institutions, period, type of degree, sex.

Subject/Topic

Methodology

Length of Time to Complete

Published Format

Citation Patterns

Value/Importance

Shortcomings

Bibliographies/Lists

Doctoral Graduates

Socioeconomic Factors: age, birthplace, family occupation, marital status, mobility, religious affiliation, sex, status of women

Educational Background: institution MLS earned, second masters degree, undergraduate major, year lapsed between MLS and Ph.D./Ed.D.

Position Held: types of libraries, library schools—deans/directors, faculty, geographic location

Doctoral Graduates

Professional Experience (before beginning doctorate)

Salaries (compared with): nondoctoral graduates, other fields of study.

Professional Membership

Publication: research, nonresearch.

APPENDIX B

Bibliographies of Library and Information Science Dissertations, 1960-1980*

(Listings of dissertation titles reported annually in *Library Quarterly* and the *Journal of Education for Library and Information Science* were not included)

Title: *Library Science Dissertations* (Cohen, et al., 1965
Title Period: 1925-1960
Number of Titles: 224
Scope: Dissertations accepted by library schools and library related topics accepted in institutions with no library science programs or those written in other departments.
Arrangement: Grouped into 8 broad categories. Subarranged: chronologically by date of completion.
Other Features: Includes summaries, brief statistical analysis of dissertations, author index, subject index.

Title: *Dissertations in Library Science* (University Microfilms, 1967)
Time Period: 1951-1966
Number of Titles: 180
Scope: Dissertations accepted by library schools or written in other departments which are library-related topics.
Arrangement: Arranged alphabetically by title.

Title: *Doctoral Dissertations in Library Science* (Eyman, 1973)
Time Period: 1930-1972
Number of Titles: 469
Scope: Only dissertations accepted by accredited library schools.
Arrangement: Arranged alphabetically by author.
Other Features: Includes index of degrees by institution, subject index.

Title: *Library Science Dissertations* (Schlachter and Thomison, 1974)
Time Period: 1925-1972
Number of Titles: 660
Scope: Dissertations which were either accepted by library schools or concerned with areas related to librarianship.
Arrangement: Arranged chronologically by date of completion and subarranged alphabetically by author.
Other Features: Includes annotations, statistical profile of dissertations, author index, subject index.

Title: *Doctoral Dissertations in Library Science* (Davis, 1975)
Time Period: 1930-1975
Number of Titles: 664
Scope: Based on Eyman's work. Only dissertations accepted by accredited library schools.
Arrangement: Arranged alphabetically by author.
Other Features: Includes index of degrees by institutions, subject index.

Title: *Library Science: A Dissertation Bibliography* (Davis, 1980)
Time Period: 1930-1980
Number of Titles: 915
Scope: Dissertations which were either accepted by library schools or concerned with areas related to librarianship.
Arrangement: Arranged alphabetically by author.
Other Features: Includes index of degrees by institutions, subject index.

APPENDIX C

Terminology Used to Categorize Positions Held by Doctoral Graduates Reported in the Published Literature, 1960-1980

Source: Danton (1959, p. 445)
Terminology
College and University Libraries: Head; Associate or Assistant Librarian; Administrative Assistant; Department Head; Staff Member
Library Schools: Dean; Faculty Member
Public Libraries: Head; Department Head
Special Libraries: Head
National Libraries: Department Head
State Libraries
Government Libraries: Head; Staff Member
School Libraries: Head
Miscellaneous
Nonlibrary Positions

Source: Marco (1965, pp. 11-12)
Terminology
Academic Library—United States: Administration; Reference-Public Service; Technical Processing
Academic Library—Foreign
Public Library (State, County, Local)
Library of Congress
Government Library (other than Library of Congress)
U.S. Office of Education
Library Education—United States & Canada: Accredited Library School; Other Library Science Program

Source: Marco (1965, pp. 11-12)
Terminology
Library Education—Outside U.S. & Canada
Other

Source: Carpenter and Carpenter (1970, pp. 13-14)
Terminology
Major Executives (heads of a library system or major divisions of a library system or library)
Heads of smaller divisions of a library (Department Heads)
Library School Faculty
  Academic Deans
Systems Analysts
Nonlibrary Capacities

Source: Schlachter and Thomison (1974, p. 104)
Terminology
Faculty
Academic Libraries
Public Libraries
School Libraries
Special Libraries
Other Positions

Source: White and Momeier (1978, p. 209)
Terminology
Library Administration
Library Operations
Library Education
Library Research

Source: Slavens (1979, p. 223)
Terminology
Administrators of Libraries
Administrators of Library
Schools
Professors
Nonlibrary or Library-Related Work

APPENDIX D

Percentage Distribution by Type of Position Held by Doctoral Graduates Reported in Published Literature, 1960-1980

Study	No. of Doctorates and Schools*	Positions Held							
		Academic	Public	School	Special	Library Schools	Library Admin.	Library Related	Others
Danton (1959)	111 (6)	56%	3.6%	0.9%	4.5%	31%	--	--	--
Marco (1965)	137 (7)	47%	1.4%	1.4%	--	44%	--	--	7.2%
Slavens (1969)	96	49%				48%	--	--	--
Carpenter & Carpenter (1970)	121 (7)	61%				39%	--	--	--
Schlachter & Thomison (1974)	435 (15)**	24.5%	2.1%	2.4%	2.4%	60.6%	--	--	8.0%
White & Momenee (1978)	396 (17)**	--	--	--	--	51.3%	33.8%	11.1% (research) 3.8% (library operations)	
Slavens (1979)	51 (1)	25%				59%	--	9.0%	--
Hunt, et al (1979)	70 (3)	--	--	--	--	45.7%	32.8%	--	21.4%

*Figure in parentheses refers to number of schools.
**Figure given is an estimated number.

REFERENCES

Berelson, Bernard. 1949. "Advanced Study and Research in Librarianship." In *Education for Librarianship* (Papers Presented at the Library Conference, University of Chicago, 16-21 August 1948), edited by Bernard Berelson, pp. 207-25. Chicago: American Library Association.

Bloomfield, Masse. 1966. "The Writing Habits of Librarians." *College & Research Libraries* 27 (March), pp. 109-19.

Bobinski, George S. 1986. "Doctoral Programs in Library and Information Science in the United States and Canada." *Library Trends* 34 (Spring), pp. 697-714.

Brace, William. 1975. *A Citation Analysis of Doctoral Dissertations in Library and Information Science, 1961-1970*. Ph.D. diss., Case Western Reserve University. Ann Arbor, MI: Xerox University Microfilms.

Bramley, Gerald. 1975. *World Trends in Library Education*. Hamden, CT: Linnet Books [a division of Shoe String Press].

Carpenter, Ray L., and Carpenter, Patricia A. 1970. "The Doctorate in Librarianship and an Assessment of Graduate Library Education." *Journal of Education for Librarianship* 11 (Summer), pp. 3-45.

Carroll, C. Edward. 1970. *Professionalization of Education for Librarianship with Special Reference to the Years 1940-1960*. Metuchen, NJ: Scarecrow Press.

Carter, Allan M. 1966. *An Assessment of Quality in Graduate Education*. Washington, DC: American Council on Education.

Carden, Robert E. 1967. "A Proposed Doctoral Program in Booktrade Research." *Journal of Education for Librarianship* 7 (Spring), pp. 222-31.

Churchwell, Charles D. 1975. *The Shaping of American Library Education*. Chicago: American Library Association.

Cohen, Nathan M., et al. 1963. *Library Science Dissertations: 1925-1960: An Annotated Bibliography of Doctoral Studies*. Washington, DC: Department of Health, Education, and Welfare.

Dale, Doris C. 1980. *Career Patterns of Women Librarians with Doctorates* (Occasional Papers Series No. 147). Urbana-Champaign, IL: University of Illinois, Graduate School of Library Science.

Dalton, Jack. 1968. "Observations on Advanced Study Programs in the Library Schools of the United States." In *Library Education: An International Survey* (papers presented at International Conference on Education for Librarianship, University of Illinois at Urbana-Champaign, Graduate School of Library and Information Science, 12 June-16 June 1967), edited by Larry Earl Bone, pp. 317-28. Urbana-Champaign, IL: University of Illinois.

Danton, J. Periam. 1959. "Doctoral Study in Librarianship—A Supplement." *College & Research Libraries* 20 (November), pp. 434-53, 458.

Davis, Charles H., comp. 1980. *Library Science: a Dissertation Bibliography*. Ann Arbor, MI: University Microfilms International.

Davis, Charles H. 1975. *Doctoral Dissertations in Library Science: Titles Accepted by Accredited Library Schools, 1930-1975*. Ann Arbor, MI: University Microfilms International.

DeHart, Florence E. 1969. "The Rutgers Doctoral Program." *Journal of Education for Librarianship* 9 (Spring), pp. 319-22.

Eyman, David H., comp. 1973. *Doctoral Dissertations in Library Science: Titles Accepted by Accredited Library Schools, 1930-1972*. Ann Arbor MI: Xerox University Microfilms.

Fry, Bernard M. 1973. "Research Conducted in Library Schools." *Information Storage and Retrieval* 9 (May), pp. 249-55.

Galvin, Thomas J., and Shaffer, Kenneth R. 1973. "Special Report: A Dissertationless Doctorate at Simmons College." *Wilson Library Bulletin* 48 (November), pp. 207-09.

Goldhor, Herbert. 1968. "Doctoral Program, University Illinois." *Journal of Education for Librarianship* 8 (Spring), pp. 269-71.

Harlow, Neal. 1968. "Doctoral Study—Key to What?" *College & Research Libraries* 29 (November), pp. 482-85.

Harmon, Lindsey R. 1978. *A Century of Doctorates: Data Analyses of Growth and Change: U.S. Ph.D.'s-Their Number, Origins, Characteristics, and the Institutions From Which They Came*. Washington, DC: National Academy of Science.

Held, Ray E. 1968. "Doctoral Program, University of California, Berkeley." *Journal of Education for Librarianship* 8 (Spring), pp. 253-58.

Houser, L., and Schrader, Alvin M. *The Search for a Scientific Profession: Library Science Education in the U.S. and Canada*. Metuchen, NJ: Scarecrow Press.

Hunt, Mary Alice, et al. 1979. "Survey of Library Science Ph.D. Graduates of Three Universities." *Journal of Education for Librarianship* 19 (Winter), pp. 241-47.

LaBorie, Tim, and Halperin, Michael. 1976. "Citation Patterns in Library Science Dissertations." *Journal of Education for Librarianship* 16 (Spring), pp. 271-83.

Lane, Nancy D. 1975. *Characteristics Relating to Productivity Among Doctoral Graduates in Librarianship*. Ph.D. diss., Case Western Reserve University, 1975. Ann Arbor, MI: Xerox University Microfilms.

Marco, Guy. 1967. "Doctoral Programs in American Library Schools." *Journal of Education for Librarianship* 8 (Summer), pp. 6-13.

Margulies, Rebecca Zames, and Blau, Peter M. "The Pecking Order of the Elite: America's Leading Professional Schools." *Change: The Magazine of Higher Learning* 5 (November), pp. 21-27.

McPhie, Walter E. 1960. "Factors Affecting the Value of Dissertations." *Social Education* 24 (December), pp. 375-77, 385.

Myers, Margaret. 1980. "Doctoral Programs in Library and Information Science." In *Educational Media Yearbook*, edited by James W. Brown and Shirley N. Brown, pp. 331-38. Littleton, CO: Libraries Unlimited.

Myers, Margaret. 1978. "Doctoral Programs in Library and Information Science." In *Educational Media Yearbook*, edited by James W. Brown, pp. 407-16. New York: R.R. Bowker.

Myers, Margaret. 1977. "Doctoral Programs in Library and Information Science." In *Educational Media Yearbook*, edited by James W. Brown, pp. 355-64. New York: R.R. Bowker.

National Research Council, Board on Human-Resource Data Analyses. 1978. *A Century of Doctorates: Data Analyses of Growth and Change: U.S. Ph.D.'s-Their Number, Origins, Characteristics, and the Institutions From Which They Came*. Washington, DC: National Academy of Science.

O'Connor, M.A. 1979. *Dissemination and Use of Library Science Dissertations in the Periodicals Indexed in the Social Sciences Citation Index*. Ph.D. diss., Florida State University, 1978. Ann Arbor, MI: University Microfilms International.

Osborne, Andrew. 1967. "The Doctorate." *Drexel Library Quarterly* 3 (April), pp. 158-63.

Reid, William H. 1987. *Four Indications of Current American and Library Information Doctoral Degree Programs* (Occasional Papers No. 176). Urbana-Champaign, IL: University of Illinois, Graduate School of Library and Information Science.

Richmond, Phyllis A. 1970. "The Ph.D. in Library Science." *College & Research Libraries* 31 (September), pp. 313-17.

Saracevic, Tefko, and Perk, Lawrence. 1973. "Ascertaining Activities in a Subject Area Through Bibliometric Analysis: Application to Library Literature." *Journal of the American Society for Information Science* 24 (March/April), pp. 120-34.

Schlachter, Gail A., and Thomison, Dennis. 1982. *Library Science Dissertations, 1973-1981: An Annotated Bibliography*. Littleton, CO: Libraries Unlimited.

Schlachter, Gail A., and Thomison, Dennis. 1974a. "The Library Science Doctorate: A Quantitative Analysis of Dissertations and Recipients." *Journal of Education for Librarianship* 15 (Fall), pp. 95-111.

Schlachter, Gail A., and Thomison, Dennis. 1974b. *Library Science Dissertations, 1925-1972: An Annotated Bibliography*. Littleton, CO: Libraries Unlimited.

Schrader, Alvin M. 1979a. "The Role of the Ph.D. Dissertation in Library Science." *Library Research* 1 (Winter), pp. 377-84.

Schrader, Alvin M. 1979b. "Ten Years of Doctoral Dissertations at the Graduate Library School of Indiana University, 1968-1977." Unpublished paper.

Shera, Jesse H. 1973. "The Aims and Content of Graduate Library Education." In *Targets for Research in Library Education*, edited by Harold Borko, pp. 9-30. Chicago: American Library Association.

Shera, Jesse H. 1972. *The Foundations of Education for Librarianship*. New York: Wiley-Becker and Hayes.

Shores, Louis. 1972. *Library Education*. Littleton, CO: Libraries Unlimited.

Slavens, Thomas P. 1979. "A Study of Library Science Dissertations Accepted by the University of Michigan." *Journal of Education for Librarianship* 19 (Winter), pp. 233-40.

Slavens, Thomas P. 1969. "Opinions of Library Science Ph.D.'s About Requirements for the Ph.D. Degree in Library Science." *College & Research Libraries* 30 (November), pp. 525-32.

Walch, David B. 1970. "Library Education and Foreign Language Requirements." *Journal of Education for Librarianship* 11 (Fall), pp. 166-81.

Wasserman, Paul. 1968. *Trends and Directions in Library Education and Library Practice*. Denver, CO: University of Denver, Graduate School of Librarianship.

White, Herbert S., and Momenee, Karen. 1978. "Impact of the Increase in Library Doctorates." *College & Research Libraries* 39 (May), pp. 207-14.

White, Herbert S. 1981. "Perceptions by Educators and Asministrators of the Ranking of Library School Programs." *College & Research Libraries* 42 (May), pp. 191-202.

ADDITIONAL REFERENCES

Boaz, Martha. 1968. "Doctoral Program, University of Southern California." *Journal of Education for Librarianship* 8 (Spring), pp. 278-82.

Bryan, Alice I. 1969. "The Doctoral Program: Initiation and Implementation." *Journal of Education for Librarianship* 9 (Spring), pp. 313-18.

Danton, J. Periam. 1962. "Doctoral Study in Librarianship—A Supplement." *College & Research Libraries* 23 (November), pp. 539-40.

Davis, Richard A. 1968. "Theses and Dissertations Accepted by Graduate Library Schools: 1966 Through December, 1967." *Library Quarterly* 38 (October), pp. 442-52.

Dimmock, Mary Laverne. 1971. "Sixth Year Study and the Academic Librarian." *Library Journal* 96 (15 September), pp. 2731-33.

Dissertations in Library Science, 1951-1966. 1967. Ann Arbor, MI: University Microfilms.

Graydon, Margaret Kesling. 1963. "Graduate Theses Accepted by Library Schools in the United States, 1960-63." *Library Quarterly* 33 (October), pp. 334-49.

Harlow, Neal. 1968. "Doctoral Study, Rutgers University." *Journal of Education for Librarianship* 8 (Spring), pp. 276-78.

Humeston, E. J., Jr. 1974. "Theses and Dissertations Accepted by Graduate Library Schools: 1972 Through December, 1973." *Library Quarterly* 44 (October), pp. 322-33.

Humeston, E. J., Jr. 1973. "Theses and Dissertations Accepted by Graduate Library Schools: 1970 Through December 1971." *Library Quarterly* 43 (January), pp. 53-64.

Humeston, E. J., Jr. 1970. "Theses and Dissertations Accepted by Graduate Library Schools: 1968 Through December 1969." *Library Quarterly* 40 (October), pp. 423-33.

Newberry, William F. 1978. "Subject Perspective of Library Science Dissertations." *Journal of Education for Librarianship* 18 (Winter), pp. 203-12.

Rawski, Conrad H. 1968. "Doctoral Programs, Case Western Reserve University." *Journal of Education for Librarianship* 8 (Spring), pp. 259-64.

Rufesvold, Margaret I., and McMullen, Haynes. 1968. "Doctoral Program, Indiana University." *Journal of Education for Librarianship* 8 (Spring), pp. 272-75.

Swanson, Don R., and Winger, Howard W. 1968. "Research, University of Chicago." *Journal of Education for Librarianship* 8 (Spring), pp. 264-69.

Tryon, Jonathan S. 1979. "Theses and Dissertations Accepted by Graduate Library Schools: 1976 Through August 1978." *Library Quarterly* 49 (April), pp. 182-96.

Tryon, Jonathan S. 1976. "Theses and Dissertations Accepted by Graduate Library Schools: 1974 Through 1975." *Library Quarterly* 46 (October), pp. 424-36.
Winger, Howard W. 1975. "Differentiating Master's, Advanced Certificate, and Ph.D. Programs." In *Administrative Aspects of Education for Librarianship: A Symposium*, edited by Mary B. Cassata and Herman L. Totten, pp. 90-113. Metuchen, NJ: Scarecrow Press.
Winger, Howard W. 1966. "Graduate Theses Accepted by Library Schools in the United States and Canada, 1964-65." *Library Quarterly* 36 (January), pp. 38-47.
Winger, Howard W. 1964. "Graduate Theses Accepted by Library Schools in the United States and Canada, 1963-64." *Library Quarterly* 34 (October), pp. 387-95.
Winger, Howard W. 1962. "Graduate Theses Accepted by Library Schools in the United States, 1960-61." *Library Quarterly* 32 (January), pp. 62-70.
Winger, Howard W. 1960. "Graduate Theses Accepted by Library Schools in the United States, 1959-60." *Library Quarterly* 30 (October), pp. 274-79.

VITA

JOSEFA B. ABRERA

Josefa B. Abrera is a faculty member of the School of Library and Information Science, Indiana University (Bloomington, Indiana). She has a Ph.D. in Library and Information Science from Indiana University. Her teaching and research interests include bibliographic and subject access to materials and information, and technical services in libraries. She has previously published in *Cataloging & Classification Quarterly*, *Drexel Library Quarterly*, *Journal of Education for Library and Information Science*, and *Library Resources & Technical Services*.